

Application/Control Number: 10/606,793

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1. A half-bridge inverter, having the following features:

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- the half-bridge inverter is connected to a positive pole and a negative pole of a power supply.
  - 10 • an upper and a lower half-bridge switch (T1, T2) that respectively have a control input, a working electrode and a reference electrode, the upper half-bridge switch being coupled with its working electrode to the positive pole , and the lower  
15 half-bridge switch being coupled with its reference electrode to the negative pole ,
  - a control module that outputs at a control output a rectangular control signal that can have a low  
20 state and a high state, and
  - a level shift switch that is coupled to the negative pole and is controlled by the control  
25 module
  - the control output of the control module is coupled via an interrupt initiation switch to the control input of the lower half-bridge switch ,  
and  
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  - the interrupt initiation switch is controlled by the current through the level shift switch in such a way that it can be switched on only whenever the current through the level shift switch is below a  
35 given threshold.

2. The half-bridge inverter as claimed in claim 1, wherein the interrupt initiation switch has a control input that is coupled to the control output of the

control module , and is coupled to a time-delay switch that is controlled by the current through the level shift switch and blocks the control input of the interrupt initiation switch as long as the current  
5 through the level shift switch is above a given threshold.

3. The half-bridge inverter as claimed in claim 2, wherein the interrupt initiation switch is a  
10 semiconductor switch with a working electrode, a reference electrode and a control electrode, the working electrode being coupled to the control output of the control module , the reference electrode being coupled to the control input of the lower half-bridge  
15 switch , and the control electrode being coupled, firstly, to the control output of the control module via a drive resistor and being coupled, secondly, to the time-delay switch .

20 4. The half-bridge inverter as claimed in claim 3, wherein the time-delay switch is a semiconductor switch with a working electrode, a reference electrode and a control electrode, the working electrode being coupled to the control input of the interrupt initiation switch  
25 , the reference electrode being coupled to the negative pole of the power supply via a current negative feedback network , and the control electrode being coupled to a current measuring apparatus that supplies at a measurement output a measuring signal that is  
30 proportional to the current through the level shift switch.

5. The half-bridge inverter as claimed in claim 4, wherein the current measuring apparatus includes at  
35 least one current negative feedback resistor that connects the level shift switch to the negative pole of the power supply , and the current measuring apparatus supplies at the measurement output a voltage whose

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root-mean-square value is proportional to the voltage across at least one current negative feedback resistor.

6. (Amended) The half-bridge inverter as claimed in claim 2, wherein a trapezoidal capacitor is coupled to the working electrode of the lower half-bridge switch , and the blocking of

the control input of the interruption initiation switch is cancelled by an apparatus, which acquires the current through the trapezoidal capacitor , when the current flows from the working electrode of the lower half-bridge switch to the trapezoidal capacitor .

7. (Amended) The half-bridge inverter as claimed in claim 4, wherein the series circuit of two diodes (D4, D5) is connected in parallel with the current negative feedback network, and a trapezoidal capacitor is connected between the connecting point of the diodes and the working electrode of the lower half-bridge switch , the diodes being polarized such that a current that flows from the working electrode of the lower half-bridge switch into the trapezoidal capacitor flows through the current negative feedback network .

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25 8. The half-bridge inverter as claimed in claim 1, wherein a lamp is supplied with power via the half-bridge inverter.

--9. The half-bridge inverter as claimed in claim 3, wherein a trapezoidal capacitor is coupled to the working electrode of the lower half-bridge switch , and the blocking of the control input of the interruption initiation switch is cancelled by an apparatus, which acquires the current through the trapezoidal capacitor , when the current flows from the working electrode of the lower half-bridge switch to the trapezoidal capacitor.--

--10. The half-bridge inverter as claimed in claim 4, wherein a trapezoidal capacitor is coupled to the working electrode of the lower half-bridge switch , and the blocking of the control input of the interruption initiation switch is cancelled by an apparatus, which acquires the current through the trapezoidal capacitor , when the current flows from the working electrode of the lower half-bridge switch to the trapezoidal capacitor.--

--11. The half-bridge inverter as claimed in claim 5, wherein a trapezoidal capacitor is coupled to the working electrode of the lower half-bridge switch , and the blocking of the control input of the interruption initiation switch is cancelled by an apparatus, which acquires the current through the trapezoidal capacitor , when the current flows from the working electrode of the lower half-bridge switch to the trapezoidal capacitor.--

--12. The half-bridge inverter as claimed in claim 5, wherein the series circuit of two diodes (D4, D5) is connected in parallel with the current negative feedback network, and a trapezoidal capacitor is connected between the connecting point of the diodes and the working electrode of the lower half-bridge switch , the diodes being polarized such that a current that flows from the working electrode of the lower half-bridge switch into the trapezoidal capacitor flows through the current negative feedback network.--